

TABLE I: A comparison of the numbers of events predicted by the SM and the observations for the  $\ell\gamma E_T$  signature. The SM predictions are dominated by  $W\gamma$  and  $Z\gamma$  production [35–37]. Other contributions come from  $W\gamma\gamma$  and  $Z\gamma\gamma$ , leptonic  $\tau$  decays, and misidentified leptons, photons, or  $E_T$ .

<b>Lepton+Photon+<math>E_T</math> Events, <math>\mathcal{L} = 929 \text{ pb}^{-1}</math></b>			
<b>SM Source</b>	$e\gamma E_T$	$\mu\gamma E_T$	$(e+\mu)\gamma E_T$
$W^\pm\gamma$	$41.65 \pm 4.84$	$29.85 \pm 5.62$	$71.50 \pm 10.01$
$Z/\gamma^* + \gamma$	$3.65 \pm 1.31$	$14.10 \pm 2.36$	$17.75 \pm 3.65$
$W^\pm\gamma\gamma$	$0.32 \pm 0.04$	$0.18 \pm 0.03$	$0.50 \pm 0.06$
$Z/\gamma^* + \gamma\gamma$	$0.09 \pm 0.01$	$0.38 \pm 0.05$	$0.47 \pm 0.06$
$t\bar{t}\gamma$	$0.88 \pm 0.12$	$0.54 \pm 0.08$	$1.42 \pm 0.19$
$\ell e E_T, e \rightarrow \gamma$	$9.59 \pm 0.76$	$1.43 \pm 0.23$	$11.02 \pm 0.81$
$W^\pm + \text{Jet faking } \gamma$	$21.5 \pm 4.8$	$6.2 \pm 3.6$	$27.7 \pm 6.0$
$W^\pm\gamma, Z/\gamma^* + \gamma \rightarrow \tau\gamma$	$2.15 \pm 0.56$	$0.76 \pm 0.24$	$2.91 \pm 0.65$
QCD (Jets faking $\ell + E_T$ )	$15.0 \pm 4.1$	$0.0^{+0.1}_{-0.0}$	$15.0 \pm 4.1$
DIF (Decays-In-Flight)	—	$2.3 \pm 0.7$	$2.3 \pm 0.7$
<b>Total SM</b>			
<b>Prediction</b>	<b><math>94.8 \pm 8.1</math></b>	<b><math>55.7 \pm 7.1</math></b>	<b><math>150.6 \pm 13.0</math></b>
<b>Observed in Data</b>	<b>96</b>	<b>67</b>	<b>163</b>

TABLE II: A comparison of the numbers of events predicted by the SM and the observations for the  $\ell\ell\gamma$  signature. The SM predictions are dominated by  $Z\gamma$  production [35–37]. Other contributions come from  $Z\gamma\gamma$ , and misidentified leptons, photons, or  $E_T$ .

<b>Multi-Lepton + Photon Events, <math>\mathcal{L} = 929 \text{ pb}^{-1}</math></b>			
<b>SM Source</b>	$ee\gamma$	$\mu\mu\gamma$	$(ee+\mu\mu)\gamma$
$Z/\gamma^*$	$37.85 \pm 4.65$	$25.55 \pm 2.88$	$63.40 \pm 7.48$
$Z/\gamma^* + \gamma\gamma$	$0.72 \pm 0.09$	$0.40 \pm 0.05$	$1.12 \pm 0.13$
$W^\pm\gamma\gamma$	$0.016 \pm 0.004$	$0.0^{+0.001}_{-0.0}$	$0.016 \pm 0.004$
$Z/\gamma^* + \text{Jet faking } \gamma$	$0.0^{+1.2}_{-0.0}$	$0.0^{+1.1}_{-0.0}$	$0.0^{+1.6}_{-0.0}$
$\ell\ell e, e \rightarrow \gamma$	$0.38 \pm 0.11$	$0.16 \pm 0.07$	$0.54 \pm 0.13$
QCD (Jets faking $\ell + E_T$ )	$0.0^{+0.2}_{-0.0}$	$0.0^{+0.1}_{-0.0}$	$0.0^{+0.2}_{-0.0}$
DIF (Decays-In-Flight)	—	$0.0^{+0.2}_{-0.0}$	$0.0^{+0.2}_{-0.0}$
<b>Total SM</b>			
<b>Prediction</b>	<b><math>39.0 \pm 4.8</math></b>	<b><math>26.1 \pm 3.1</math></b>	<b><math>65.1 \pm 7.7</math></b>
<b>Observed in Data</b>	<b>53</b>	<b>21</b>	<b>74</b>

TABLE III: A comparison of the numbers of events predicted by the SM and the observations for the  $e\mu\gamma$  signature. The SM predictions are dominated by  $Z\gamma$  production [35–37]. Other contributions come from  $W\gamma$ ,  $Z\gamma\gamma$ ,  $W\gamma\gamma$ , and misidentified leptons, photons, or  $E_T$ .

<b><math>e\mu + \text{Photon Events, } \mathcal{L} = 929 \text{ pb}^{-1}</math></b>	
<b>SM Source</b>	$e\mu\gamma + X$
$Z/\gamma^* + \gamma$	$0.66 \pm 0.09$
$W^\pm\gamma$	$0.10^{+0.18}_{-0.10}$
$Z\gamma\gamma$	$0.06 \pm 0.01$
$W\gamma\gamma$	$0.011 \pm 0.003$
$e\mu j, j \rightarrow \gamma$	$0.05 \pm 0.01$
$ee\mu, e \rightarrow \gamma$	$0.06 \pm 0.05$
$W^\pm\gamma, Z/\gamma^* + \gamma \rightarrow \tau\gamma$	$0.09^{+0.18}_{-0.09}$
<b>Total SM</b>	
<b>Prediction</b>	<b><math>1.0 \pm 0.3</math></b>
<b>Observed in Data</b>	<b>0</b>